Abstract
This article starts by a brief overview of the evolutive process in the field of education in Library and Information Science (LIS) in Portugal and its connection with international contexts.

This approach allows to understand the paradigm shift and the crucial and complex changes caused by the impact of social, economic, cultural and technological conditions of the information era as well as the emergence of a new scientific area – Information Science (IS). Both contributed to the arising of new perspectives in information services, new information professionals and, undoubtedly, new education models.

Considering the positioning in the European space, will also be considered the implementation of the European Higher Education Area, whose creation endeavoured an educational approach across the European Union countries, including LIS field.

1 General context
The analysis of the millenary evolution of the info-communicational process and of those who act inside it and take charge of its control shows the clear existence of a rich and technically developed modus operandi focused on the document – the physical evidence that reflects and supports either the record of corporate bodies and nations' administrative activities or the human knowledge and memory, which must be preserved, disseminated and accessed.

Maintaining the integrity of the information system and its proximity to its producer, those practices didn’t settle an effective gap between what is assumed today as being an archives or a library. However this integrated perspective will be deeply affected by the changes occurred after the French Revolution (1789).

In fact, this event was the starting point of a changing process that has been continued along the 19th century, whose ideas related to the reinforcement of the liberal policy, the protection of the national memory and cultural heritage, the development of History and the influence of the Positivism, substantially changed the previous practices.

The liberal perspective goes towards a progressive separation of information from its producers and the institutionalization of an activity / profession more and more related to custodial entities artificially created to collect, organise and disseminate information, shaping the emergence of a historicist and custodial paradigm (the French model) that will dominate in Europe.

Public institutions as Archives and Libraries (at national, departmental or local level) were created and related to different kinds of documents (“archival documents” and “library documents”) and were progressively focused in technical procedures.

At beginning of the 20th century, it was visible the emergence of “different” professional corporations which try to achieve their disciplinary autonomy reflecting the progressive separation between erudite libraries and those related to technical and scientific information (documentation), and also between historical archives and the borning records management area, or even the autonomy of Archivistics from History.

Meanwhile, it was unquestionable the increasing number of professionals that needed to be prepared to do their job. The training inside institutions became a current practice, namely in many European countries where it constituted, at the time, almost the only way to educate those professionals.
However, this training was given separately to librarians and to archivists (this separation still remains today in many places in Europe) and has been reinforced by the entrance of professional associations into the professional education sphere, in the last decades of the 19th century. Regarding the academic education, and despite some exceptions at the end of the 19th century, it will be institutionalized only at the decade of 40 in the 20th century.

2 The establishment of LIS (and archives) Education in Portugal: the Higher Course for Librarians and Archivists (1887-1982)

The Portuguese reality reflects the context mentioned above but it must be pointed out three distinctive aspects:

- Portugal is one of the countries in the world where LIS (and archives) education at higher level began earlier;
- from the beginning, the education of librarians and archivists was given in an integrated way (in the same course);
- the participation of professional associations in the education process started later, only in the 80's.

The first and innovative course of professional education, of higher level, directed to train librarians and archivists, was created in 1887 with the name of Curso Superior de Bibliotecário-Arquivista (Higher Course for Librarians and Archivists). The specialized subjects (Diplomastics, Numismatics and Bibliology) were lectured in the National Archives (Torre do Tombo) and in the National Library and the teachers were employees of these institutions. The other subjects (Portuguese and Universal History; Philology; Latin and Greek Literature; Modern Literature of Europe) were taught in the Curso Superior de Letras (Higher Course in Arts and Humanities), in Lisbon.

The Republic, established in 1910, brought an increasing state interest in the promotion of culture and public instruction and, consequently, the concerns about access to information, public reading, promotion of libraries and archives have also been improved. In 1911 the University of Lisbon was created and the ‘Curso Superior de Letras’ has been transferred to its scope. Therefore, the archivists and librarians’ education became integrated in the academic space, as an under graduated course (although not equivalent to a modern bachelor), but the technical subjects remain to be taught at the National Archives and at the National Library. With the duration of three years, this course gave a specialized professional training and could be attended by everyone who had completed the grammar school.

The next major changes occurred in 1931. The Higher Course for Librarians and Archivists has been reformulated in order to be an "exclusively professional" course and was retired from the university. The tutelage of the course became competence of the Inspeção das Bibliotecas e Arquivos (Inspection of Libraries and Archives) created in 1887, and the access conditions also changed. It was transformed into a post-graduated course, which required a previous graduation in Humanities or, at least, the approval in some humanistic subjects.

The technical aspects were reinforced and those related to general and cultural subjects have been reduced. However, after some years it was recognised that the education, disconncted from an academic institution, was quite difficult to be assured by the technical services that were responsible for the teaching.

Therefore, in 1935, a new reformation has been taken and the Higher Course for Librarians and Archivists has been established in the Faculty of Arts and Humanities of the University of Coimbra. It remained as a post-graduated course, with the duration of two years and a “practicum” of six months, and it could be accessed by anyone who got a graduation in any subject and who passed an entry examination of general culture. The Higher Course for Librarians and Archivists included in the first year subjects as Palaeography and Diplomastics, Numismatics and Sphragistics, Bibliography and Librarianship and in the second year a Course of Improvement in Palaeography, Archivology and Archivoeconomy.

The Higher Course for Librarians and Archivists has been the only way to the education of information professionals in Portugal, during about one hundred years (1887-1982), with a single alternative, established in 1969, through a Technical Training more oriented to Documentation, which took place, by practical and economical reasons, in libraries or archives designated by the Ministry of Education. At the end the students got a librarian-archivist-documentalist diploma.

In fact the Higher Course for Librarians and Archivists followed a historicist and erudite matrix (French model), but the professionals felt the necessity of a new education model, more technical and technological. In a certain way this has been achieved through the Technical Training established by the Ministry of Education, a kind of training more in...
accordance to the American model that put an emphasis in the technique and technologies, got proximity to Information Science and reduced the cultural and historical subjects. However, this experience only lasted for a few years.

Considered old fashioned to answer to information challenges and to the work market needs the Higher Course for Librarians and Archivists has been extinguished in 1982, and replaced by a new education model, named Specialization Course in Documentation Sciences (Curso de Especialização em Ciências Documentais – CECD).

3 A renewed education model in 1982: the CECD (Specialization Course in Documentation Sciences)

The CECD brought not only a significant change in the curriculum but also a structural change – it introduced the separation of archivists’ training from librarians/documen- talists’ training. It was a two years post-graduated course, with a common training in the first year and a separation in two branches, during the second year (‘archives’ and ‘libraries/documentation’). This happened not because of scientific or theoretical reasons, but as a response to professional activities and corporative interests. In spite of the word “specialization” in its designation, this course was, in fact, initial training because it didn’t suppose a previous graduation in the same area of knowledge.

The expectations related to a curriculum oriented to enlarge the capacity of using information systems and information networks and to develop documentation services, libraries and archives have not been really achieved with the new education model established in 1982 and some time after its creation it has been the target of many criticisms. But, in despite of that, the CECD became the dominant training model in Portugal and remains, even today, as the only recognised, in accordance to the law, to admit a librarian, an archivist or a documentalist in public administration services.

The CECD created in 1982 started its classes in the University of Coimbra and in the University of Lisbon in 1983 and after three years (1985) began in the University of Porto. In 1988, a private university got permission to lecturer this course too. Until the end of the century, Portugal had LIS education in four universities and trained about 120 information professionals/year.

After 2000, and related to the university’s crisis in the area of Humanities, the growth has been enormous and the CECD were established in several public and private universities. In 2007 there were 17 courses and it is possible to estimate that the admission to these courses had grown to about six hundred students/year at the moment.

Besides some lacks in the CECD curriculum, three other main problems in LIS education must be referred: the inexistence of a progressive education model inside the University (from bachelor to PhD); the inexistence of teaching people exclusively devoted to an academic career; the prevalence of practice over academic and scientific concerns. In fact, only the universities of Coimbra and Porto admitted full-time teachers to CECD; in the other universities, either public or private, the teaching has been guaranteed by professionals (librarians, archivists or documentalists), that teach in the university in part-time and don’t have conditions or interest to devote themselves to research activities.

With a different positioning, some institutions implemented masters’ courses in a partnership with foreign universities such as University of Sheffield: LNETI established a Master of Science in Information Management, in the beginning of the 90’s; the Faculty of Engineering of University of Porto started a Master in Information Management, in 1997. The doctoral studies began in 1989 in the Faculty of Arts and Humanities of University of Porto and a PhD has been also established in the University of Coimbra in 1996,

4 The new curriculum in Information Science (2001) and the changes of “Bologna Process”

In face of the constraints of the dominant educational model (CECD) – a clear domain of professional practices and the absence of a scientific support –, a new model had been designed in the scope of Information Science. This new perspective is based on a new scientific-informational paradigm, emerged in the last decade of the 20th century and integrates Archivistics, Librarianship and Documentation as applied areas in the field of Information Science. It has been object of a deep reflection, at epistemological and theoretical levels, which lead to the edition of a book entitled Das “Ciências” Documentais à Ciência da Informação : ensaio epistemológico para um novo modelo curricular.

Briefly, it must be said that the information which is understood as the object of Information Science is, naturally, social information (as distinct from genetic or biological information and physical or thermodynamic information), thus understood
as a set of mental, coded and socially contextualised representations (significant symbols) possible of being recorded on any medium (paper, film, magnetic tape, etc.) and, therefore, permanently communicated. Furthermore, the fact that this information has a psycho-social character and that its genetic process makes it an entity in itself gives it an originality prior to its materialisation (record).

It is also important to explain that Information Science deals with a scientific research method and the one adopted is the quadripolar method, developed in the scope of Social Sciences, by Paul de Bruyne and other authors. The adoption of Systemic Theory, as a reference and an interpretative tool for any scientific study, will it be theoretical or practical, is another element that characterizes the scientific approach towards Information Science.

The new curriculum firstly aims to avoid the artificial separation between some technical questions, traditionally identified with archives or libraries that have characterised education and training in Portugal. We refer to procedures related to the organisation and representation of information, such as description, cataloguing and indexing, which in Portuguese courses have been assigned to different disciplines, depending on whether the training is for archivists or librarians.

The proposed unitary approach also aims do a synthesis with the so called Information Systems (technological systems devoted to the storage and retrieval of information), that are increasingly being implemented inside organisations in general.

The education model brings together within the scope of the main academic area – Information Science – a set of disciplines that, on one side, assure a theoretical and methodological unity and, on the other side, includes the applied components of this field, with their particular specialisations. Theory and research methods, systems analysis, technical procedures for organising and representing information and related to storage and retrieval procedures, along with informational behaviour and seeking constitute, naturally, the core curriculum. These core subjects are complemented by a set of subjects devoted to the applied components of Information Science, as they are related to the different kind of information systems (archives, libraries or technological information systems).

The curriculum is also completed by several subjects (some obligatory and some optional) that represent the interdisciplinary relationship with other academic areas.

This model was implemented, at under graduate level (bachelor) in the University of Porto in 2001 as a partnership between Faculty of Arts and Humanities and Faculty of Engineering. It is oriented to educate information professionals able to work in any organisational context and from its beginning it tried to integrate itself in the spirit of Bologna Declaration, in what concerns professional profiles and competences.

Before the Bologna reformation, this bachelor (a 4 years curriculum) included a six months practicum in a work context. The graphics below show the evolution of the practicum proposals, received either from the private or the public sector (Graphic 1) and the diversity of services (Graphic 2) that request these kind of information professional, with a clear domain of sectors related to organisational information management, independently of the existence of an archives or a library service. Thus, 57% of the students found their first job in private companies, what
shows that they are able to work in any organisational context (Graphic 3).

This new education model of University of Porto is slowly inspiring other schools in order to the creation of similar under graduated courses in spite of they don’t adopt the designation “Information Science”. If we consider the changes occurred in the last two years, with “Bologna” implementation, we can see a clear domain of the 1st cycle (bachelor) and 2nd cycle (master) in the higher education public institutions (mainly universities) side by side with the prevalence of post-graduated courses, namely the CECD.

The number of courses has been growing from 33, in 2005 (before Bologna), to 47 in 2007, mainly in the 1st and 2nd cycles. However, three of these courses hadn’t start yet because of the lack of students and others have an excessive number of applications.

Portugal, at the present time, lives a moment of shift which recommends an effective reflection and curricula benchmarking without forgetting either the outcomes that the ongoing research will deliver or the required adjustment of an education model that should also be directed to the competences’ acquisition, truly adequate to the market and research needs in the information era.

References:


RIBEIRO, Fernanda - LIS Education in Portugal between academia and practice.
Aim and objectives
The SET project aimed to explore the feasibility of developing Guidelines for the quality of LIS education programs that will provide a basis for establishing procedures for determining the equivalency of degrees granted and the reciprocity for recognition of job qualifications from the wide variety of LIS program contexts and cultures that exist internationally.

The specific objective was determining if a common framework for LIS professional qualifications, competencies and learning outcomes necessary for different levels of professional employment and for a variety of job profiles, is possible in the international context of the information society.

Methodology
The literature dealing on equivalency and reciprocity of qualifications for LIS professionals has been reviewed to provide the historical and research context for the methodology. The various current methods of assessing quality of LIS programs and competencies of LIS professionals have been analyzed A questionnaire has been developed with the following purpose:

- To determine acceptable criteria and procedures for establishing equivalency and reciprocity of LIS Professional Qualifications
- To determine best measures of quality assurance of LIS educational programs in the judgement of LIS professionals and LIS faculty worldwide.

The survey has been conducted by email. The resources of the Education and Training Section of IFLA have been utilized to facilitate the data gathering. Two focus groups has been held: the first in September 2007 at Lisbon international conference and the second during a European regional workshop organised in Zadar in January 2008. A limitation of this survey is due to the low respondent ratio.

Findings
Dealing with Equivalency and Reciprocity of LIS qualifications, it is clear that what is lacking is a uniform basis of assessing equivalent degrees internationally.

Professional qualifications
Most of the respondents give evidence that the preminent entry level in Europe and in Asia is the LIS Batchelor degree. In US and other countries, (as for example UK, Poland, Turkey) is required a LIS Master Degree. Any Batchelor degree (not in LIS) is required by countries in Europe and Asia (for example by Portugal, Bulgaria, Italy and Japan), For civil servants, additional requirements are: certification of individuals (as for example Estonia, Belgium), professional exam (Spain, Croatia), generic exam (for example Italy).

For career advancement in Public Administration, there are special requirements, as professional retraining with 2 years curricula (for example Russia), or Master completion (as in France).

Professional Association role
Who is leading the quality assurance process? In US and some other countries (as Australia) the Library Association is leading the accreditation process of LIS courses. In Europe Library Associations, except UK, are not involved in quality assurance(QA) of LIS programmes. The role of Library Associations could be especially important for the recognition of profession, and also for facilitating equivalency of qualifications at international level.